

AMENDMENT TO THE CLAIMS:

Please amend claims 1, 2, 9, 11, 14, 15 and 16 as shown in the following listing of claims.

1. (Currently Amended) A stereo camera apparatus comprising:

a main camera taking photograph of an object; and

a sub-camera taking photograph of said object from a point of view different from a point of view of said main camera, said main camera and sub-camera being disposed with a predetermined spacing,

a shooting direction of said stereo camera is substantially perpendicular to said predetermined spacing in a baseline between the main camera and the sub-camera,

wherein optical axes of said main camera and said sub-camera are inclined toward the main camera side with a predetermined angle defined by each of the optical axes and with ~~respect to the shooting direction between said main camera and said sub-camera.~~

2. (Currently Amended) The stereo camera apparatus as recited in claim 1, further comprising:

image processing means for calculating a three-dimensional distance distribution of said object based on a positional difference between a region in a reference image photographed by said main camera and a corresponding area in a comparative image photographed by said sub-camera to an image signal of said region,

wherein said corresponding area is searched in a search area having predetermined length which extends from a position substantially corresponding to said region, said positional difference is obtained from an area which capable of setting said search area inside of said comparative image,

wherein angles of inclination of said main camera and said sub-camera are set to be such angles that said three-dimensional distribution being substantially left-right ~~left-right~~ symmetric with respect to a central axis of a vehicle parallel to the shooting direction.

3. (Previously Presented) The stereo camera apparatus as recited in claim 1, wherein the optical axis of said sub-camera is inclined toward said sub-camera side with respect to the optical axis of said main camera.

4. (Previously Presented) The stereo camera apparatus as recited in claim 2, wherein the optical axis of said sub-camera is inclined toward said sub-camera side with respect to the optical axis of said main camera.

5. (Previously Presented) The stereo camera apparatus as recited in claim 1, further comprising:
a camera stay for mounting said cameras thereon, wherein a longitudinal direction of said camera stay is substantially perpendicular to the shooting direction.

6. (Previously Presented) The stereo camera apparatus as recited in claim 1, wherein each of said cameras is made of CCD camera.

7. (Previously Presented) The stereo camera apparatus as recited in claim 1, wherein said cameras are mounted in the vicinity of a rear-view mirror of a vehicle, said cameras taking photographs of views outside the vehicle.

8. (Canceled)

9. (Currently Amended) The stereo camera apparatus as recited in claim 1,

wherein a first acute angle defined between said optical axis of said main camera and the baseline is smaller ~~larger~~ than a second acute angle defined between said optical axis of said sub-camera and the baseline.

10. (Previously Presented) The stereo camera apparatus as recited in claim 9,

wherein the first acute angle is larger than the second acute angle in order to provide a search margin in a comparative image photographed by said sub-camera to enable detection of an infinite distance corresponding point positioned at an end of said sub-camera side in a reference image taken by said main camera.

11. (Currently Amended) The stereo camera apparatus as recited in claim 2, wherein a first acute angle defined between said optical axis of said main camera and the baseline is smaller ~~larger~~ than a second acute angle defined between said optical axis of said sub-camera and the baseline.

12. (Previously Presented) The stereo camera apparatus as recited in claim 11, wherein said first acute angle is larger than said second acute angle in order to provide a search margin in said comparative image to enable detection of an infinite distance corresponding point positioned at an end of said sub-camera side in said reference image.

13. (Previously Presented) The stereo camera apparatus as recited in claim 3, wherein the optical axis of said sub-camera is inclined toward said sub-camera side with respect to the optical axis of said main camera in order to provide a search margin in a comparative image photographed by said sub-camera to enable detection of an infinite distance corresponding point positioned at an end of said sub-camera side in a reference image taken by said main camera.

14. (Currently Amended) ~~he~~ The stereo camera apparatus as recited in claim 4, wherein the optical axis of said sub-camera is inclined toward said sub-camera side with respect to the optical axis of said main camera in order to provide a search margin in said comparative image to enable detection of an infinite distance corresponding point positioned at an end of said sub-camera side in said reference image.

15. (Currently Amended) A stereo camera apparatus installed in a vehicle, comprising:

a main camera taking photograph of an object in a front of the vehicle ~~shooting direction~~;

and

a sub-camera taking photograph of said object from a point of view different from a point of view of said main camera, said main camera and sub-camera being disposed with a predetermined spacing in a direction substantially perpendicular to a central axis of the vehicle ~~the shooting direction~~,

wherein optical axes of said main camera and said sub-camera are inclined toward the main camera side with a predetermined angle defined by each of the optical axes and the central axis ~~with respect to the shooting direction between said camera and said sub-camera~~.

16. (Currently Amended) The stereo camera apparatus as recited in claim 1, wherein angles of inclination of said main camera and said sub-camera are set to be such angles that make an area substantially left-right ~~left-right~~ symmetric with respect to a central axis of a vehicle parallel to the shooting direction, said area being an area of three-dimensional distance distribution obtained by an image processing unit on the basis of images photographed by said cameras.

17. (Previously Presented) The stereo camera apparatus as recited in claim 15, wherein the optical axis of said sub-camera is inclined toward said sub-camera side with respect to the optical axis of said main camera.

18. (Previously Presented) The stereo camera apparatus as recited in claim 15, further comprising:

a camera stay for mounting said cameras thereon, wherein a longitudinal direction of said camera stay is substantially perpendicular to the shooting direction.

19. (Previously Presented) The stereo camera apparatus as recited in claim 15, wherein each of said cameras is made of CCD camera.

20. (Previously Presented) The stereo camera apparatus as recited in claim 15, wherein said cameras are mounted in the vicinity of a rear-view mirror of a vehicle, said cameras taking photographs of views outside the vehicle.